

Claims

- 5 1. A method of indicating a macro mobility entity in an access system comprising a plurality of mobile stations (MS), access nodes (SGN1, SGN2), and at least one mobility entity (FA1) arranged to provide macro mobility management services to the mobile stations (MS/MN) while registered to the access system, said method comprising the steps of
- 10 initiating an attach procedure to one of said access nodes by a mobile station,
- characterized by further steps of
- reacting to said mobile station having IP capability by
- 15 initiating at said access node a selection of a macro mobility entity for said mobile station, and
- sending the identity of said selected macro mobility entity to said mobile station in association with an access context establishment.
2. A method according to claim 1, characterized by the step of sending to said mobile station a request to initiate activation of a packet protocol context for said mobile station in said access system.
- 20 3. A method according to claim 1 or 2, characterized by the step of checking at said access node, in response to said initiation of the attach procedure, whether said mobile station has macro mobility capability.
4. A method according to claim 1, 2 or 3, characterized by the step of sending the identity of said selected mobility entity to said mobile station in said request.
- 25 5. A method according to claim 1, 2, 3 or 4, characterized by the step of
- initiating an activation of the packet protocol context by said mobile station having an associated mobile node in order set up a connection to said selected mobility entity, if a registration according to the macro mobility management is desired.
- 30 6. A method according to any one of claims 1-5, characterized by said macro mobility management being Mobile IP type mobility management, and by the step of sending an agent advertisement message from said selected mobility agent to said mobile node over said connection,
- 35 said agent advertisement message enabling said mobile node to initiate Mobile IP registration.

~~7. A method according to any one of claims 1-6, characterized by the step of~~

checking said macro mobility capability of said mobile station on the basis of subscriber data stored in a subscriber data base or information provided by said mobile station in said attach procedure.

8. A method according to claim 7, characterized by said macro mobility capability being indicated by a classmark information of said mobile station.

9. A method according to any one of claims 1-8, characterized in that said selected mobility entity is a foreign agent associated with one of said gateway nodes in said packet access network.

10. A method according any one of claims 1-9, characterized in that said identity includes a mobile entity address (FA1, FA2).

11. A method according any one of claims 1-10, character-
15 ized in that the access system is a radio system, such as GPRS or UMTS.

12. A packet access system, comprising
a plurality of mobile stations (MS), at least some of said mobile stations supporting macro layer mobility, such as a Mobile IP,
access nodes,
at least one mobility entity (FA1) arranged to provide macro mobility management services,

characterized by
said access nodes being responsive to said mobile station (MS/MN)
having the macro mobility capability to

25 initiate a selection of a macro mobility entity (FA1,FA2) for
said mobile station (MS/MN), and to

send an identity of said selected macro mobility entity (FA1,FA2) to said mobile station (MS/MN) .

13. A system according to claim 12, characterized by said
30 access nodes being responsive to said mobile station (MS/MN) having the
macro mobility capability to initiate activation of a packet protocol context for
said mobile station in said access system.

14. A system according to claim 12 or 13, characterized by
said access nodes being responsive to an attach request received from a mo-
35 bile station to check whether the mobile station has macro mobility capability.

SUB 127
15. A system according to claim 12, 13 or 14, characterized by said access node sending the identity of said selected mobility entity (FA1,FA2) to said mobile station in said request.

5 16. A system according to any one of claims 12-15, characterized by said mobile station, when having an associated mobile node and desiring a macro mobility registration, being arranged to initiate activation of the packet protocol context in order set up a connection to said selected mobility entity (FA1,FA2) according to said identity.

10 17. A system according to any one of claims 12-16, characterized by said access nodes being arranged to check said macro mobility capability of said mobile station (MS/MN) on the basis of subscriber data stored in a subscriber data base or information provided by said mobile station in said attach procedure.

15 18. An access node for a packet access system comprising a plurality of mobile stations (MS), at least some of said mobile stations (MS/MN) supporting macro mobility, access nodes (SGSN1, SGSN2) serving said mobile stations within respective parts (RAN1, RAN2) of the packet access system, and at least two macro mobility entities (FA1, FA2) being arranged to provide macro mobility management services to the mobile stations (MS/MN)
20 while registered to the access system, characterized by said access node comprising

means, responsive to said mobile station (MS/MN) having the macro mobility capability, for

25 selecting at said access node a macro mobility entity (FA1,FA2) for said mobile station (MS/MN), and for

sending an identity of said selected macro mobility entity (FA1,FA2) to said mobile station (MS/MN) in association with an access context establishment.

30 19. An access node according to claim 18, characterized by means for checking whether a mobile station (MS/MN) accessing the system via said access node (SGSN2) has macro mobility capability.

ADDA 137